Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

In the closing pages an account is given of some experimental cultures undertaken with the design of tracing, if possible, the connection between the species of *Gymnosporangium* and *Ræstelia.* Concerning the results of the experiments the author says, "Whether we consider the distribution of our species or the results of the cultures made, there is nothing to confirm the views of Œrsted as to the connection of particular species." In another place he also says, in reference to this subject, "Much more work remains to be done in this country, * * more extended and accurate knowledge of the distribution of our species is to be desired, and many more cultures must be made." "If it should be shown that several of our *Ræstelia* are perennial, a fact true with regard to most of our *Gymnosporangia,* and to grow in regions remote from species of *Juniperus* and *Cupressus,* then one could not help feeling that any connection between the two genera was probably accidental rather than genetic."

It is to be hoped that Prof. Farlow will continue this investigation until the number, identity and distribution of our species shall be satisfactorily ascertained and the supposed connection between the *Gymnosporangia* and *Ræsteliæ* shall be shown to be either real or imaginary. —CHAS. H. PECK.

Maryland Fungi. II.—On the first of August I fled from the tropical heat of Baltimore, but I confess that my flight had more than fresh air for its object. A ramble among the hills and the mountains of Maryland, offered as inducements a more extensive field for collecting. and a further knowledge of the geographical distribution of fungi. In the northwestern counties of this state, I found matters pretty much in the same condition as in Baltimore county. A very intelligent countryman with whom I conversed told me that he had rarely known such a poor season in the way of fungi. Only a few plants were to be met with even in the most favorable localities. But this state of things was not to last long. The third week in August brought a profusion and for three weeks the cryptogamic flora of Maryland was resplendent with beauty. Every lawn, flower garden and woods contributed its full share and the most avaricious collector could feel that his lot had fallen upon fair ground. Wherever I journeyed, "frog stools," so-called, seemed to become quite the fashion; though in some sections it was impossible not to perceive that I was considered "just a little Quixotic," as I heard some one say in a sly way. But for all this I received daily contributions from kind friends who were as might be expected forgetful of classification, and sent pilei without stipes and stipes minus the base. In this way I lost several beautiful Agarics that were new to me and which I never again met with.

At one stopping place I met with three very bright little boys. When I asked them if they knew anything about "frog stools" they replied: "Oh, yes, they knew all about them " I engaged them to come to the hotel the next morning and conduct me to, as they called it, "a grand place for frog-stools." I suppose they wished to assure me of their truthfulness as well as to earn a little money, for they went out early next morning, collected a quantity of fungi, and presented themselves at the door of the hotel saying: "We want to see that frog-stool lady that stays here." Luckily I was in the hall when I heard the waiter roar out: "You three young scamps clear out this moment! Off with you! Have you gone crazy? Who ever heard tell of a frog-stool lady?" The moment I made my appearance one boy cried out: "There she be!" "That's her!" said another. "Didn't I tell you so!" said the third. The boys exulted over their success, while the waiter fell back looking ashamed of having so unceremoniously driven off my visitors. One boy had his hat filled. Another had an old tin bucket with the bottom half out, but stuffed up with the largest *A. nitidus* I ever saw. The third had a basket without a handle, and wherever there was an opening it was filled up with a large Agaric.

With some few exceptions the plants that I found were the duplicates of those that I had collected in past seasons near Baltimore. *A.* (*Amanita*) *muscarius*, L., with its usual warted and canary yellow pileus, varied in size according to the soil and locality in which it grew. *A.* (*Amanita*) *cæsarius*, Scop., with its smooth viscid pileus and striate margin, varied in intensity of color. At times it was scarlet, then bright sienna red; lamellæ free, yellow; stipe floccose, always more or less curved, and filled with a cottony stuffing; volva adnate at the base with a free margin. *A.* (*Amanita*) *solitarius*, Bull., did not always grow solitary as its name implies, it seemed to love company. I frequently met with three or four plants not more than nine inches apart, and in one instance two grew close together, but this is not the rule. The stipe of this Agaric is always solid, and the flesh is generally dry, but I once met with several plants that exuded a watery juice profusely when cut, and this too in very dry weather when there was no external moisture for them to absorb. *A.* (*Amanita*) *rubescens*, Pers., I found only in one locality with a dark red warted pileus, and stipe covered with red scales. *A.* (*Amanita*) *vaginatus*, Bull., was large and beautiful. *A.* (*Amanita*) *nitidus*, Fr., plentiful and very large.

The scaly cuticled sub-genus *Lepiota* was largely represented. The following species were to be found in quantities nearly everywhere. *A* (*Lepiota*) *Americanus*, Peck, I found in woods near Baltimore in 1879, but it was not to compare with the large and beautiful plants I collected in Carroll and Frederick counties. It varies in depth of color as well as in size. The largest measured 7 inches across the pileus. *A.* (*Lepiota*) *cepæstipes*, Sow., was in every period of its growth and even in its decline, delicately beautiful. I found it mostly in short grass on lawns and in flower gardens, growing in tufts. I remarked its slowness in coming to perfection I watched a tuft of young plants for two days, and although the atmosphere was warm and damp with occasional gentle showers, they did not expand until the morning of the third day. *A.* (*Lepiota*) *cristatus*, Fr., was plentiful and seemed also to prefer lawns and gardens. *A.* (*Lepiota*) *procerus*, Scop , measured 8 inches across the pileus. This is a variable Agaric in size as well as in color, and the pileus is often without scales. *A.* (*Armillaria*) *melleus*,, Vahl., grew in dense clusters on dead stumps. The pilei varied in size 4–9 inches across; stipes 4–9 inches high. *A.* (*Tricholoma*) *personatus*, Fr., also *A.* (*Tricholoma*) *præfoliatus*, Peck, were large, but not plentiful. *A.* (*Clitocybe*) *illudens*, Schw., was gorgeous. It took possession of old stumps, growing in large bunches, looking like a cloth of gold spread out for some grand entertainment of the Nymphs. The pilei were 8–10 inches across; stipes 7–11 inches high. *A.* (*Pleurotus*) *ostreatus*, Jacq., grew in large bunches on the projecting roots of an old tree. How it survived the rough usage of the culinary department was a marvel. It grew in front of the kitchen door of a large hotel where hot and cold water were alike poured out. For one week it came successively. The spores were white, .0003×.00020 in. and so plentiful that during the process of drying its surroundings were as white as if flour had been sifted. *A.* (*Pholiota*) *adiposus*, Fr., appeared in large tufts on a *Morus alba* tree. The large bright yellow pilei, most of them 7 inches across, covered with dark brown superficial scales, supported on stipes 5½ inches high, one inch thick, were very beautiful and attractive. It grew not only in dense clusters in the fork of the tree, but aspired to the first branches. On the third of October I met with this Agaric growing luxuriantly in the crevices of the bark and on the branches of a *Morus alba* in an adjacent street. The spores are ferruginous; .00022×.00032 inch. *Cantharellus floccosus*, Schw., was beautifully represented in Carroll county. The largest measured 9½ inches across the pileus, stipe 10 inches high. It grows gregarious and in bunches, several pilei branching from the same stipe.

The beautiful little *Marasmius rotula*, Fr., still has mortuary associations from my finding it growing on dead sticks that had fallen across and around a marble slab that covered the remains of one of the first settlers in Carroll county, a native of Lancashire, England, and a person of some note, who died in 1796, at the good old age of 79 years. In some instances it grew in little tufts, in others it was distributed over the entire length of the sticks, giving them at a short distance the appearance of long spikes of tiny white flowers. Many of the pilei were immature, but those that were perfect measured from one quarter to three quarters of an inch across. The umbilicate plicate pileus with crenate margin; dark red or brown bristle-like stipe, wavy and often branched, combine in making the prettiest little fungus I know *Boletus luridus*, Fr., was large and plentiful also *Boletus modestus*, Peck. *Boletus fellens*, Bull., was small and scarce. I have frequently collected this plant in the woods near Baltimore very large, at times 12 inches across the pileus. Its size depends much upon the soil and the situation in which it grows.

On the Blue Ridge Mountains I found the same species of fungi that I had collected in lower lands as well as in the vicinity of Baltimore. The highest summit of these mountains in Maryland is High Rock. Its top is 1,500 feet above mean tide. Its slopes are inhabited by trees of greater or less size according to the depth of the soil. It was on one of these slopes that I collected the largest number of plants. *Fistulina hepatica*, Fr., about the average size was plentiful on the trunks of oak trees, and on old oak stumps. One could have feasted on this "vegetable beefsteak" had they felt so disposed. *A. orcella*, as I have already stated, grew in large rings, but dwarfed in size. *Cantharellus cibarius*, Fr., also grew in rings, but it was small. *Polyporus nidulans*, Fr., very small, and plentiful on dead sticks. *Lycoperdon gemmatum*, Fr., grew in large clusters, small, about half the usual size. That beautiful little fungus *A.* (*Clitocybe*) *odorus*, Bull., with its bluish-green pileus and sweet spicy odor, growing gregarious or in tufts, occupied a quiet and obscure nook. *Xylaria polymorpha*, Grev., bristled up on the ruins of an old stump, looking at first sight as if the crumbling pile had even in its decay sent forth a profuse growth of dark brown twigs. Upon near approach, these, at times, variously branched twigs were found covered with white conidia, revealing the secret that they belonged to the Cryptogamic family. Several small specimens of *A. muscarius* assured one that they too could rusticate upon the mountains as well as on the plains. *Lactarius piperatus*, Fr., appeared solitary; it is generally gregarious. It was the first and only *Lactarius* I found during the entire season, and very small. *Russula virescens*, Fr., only two very small plants. In a narrow cleft not very far from the base of the mountain *Scleroderma vulgare*, Fr., was the sole occupant covering spaces three feet in diameter, growing in dense bunches, varying from the size of a walnut to 4–5 inches in diameter. *Lycoperdon pyriforme*, Schæff., grew singly and in clusters on old stumps and prostrate trunks of trees as well as on the ground; frequently bound together by the rooting fibers. The largest measured 4 inches in diameter, 6 inches high, in shape looking like a large inverted pear.—MARY E. BANNING.

Ferns of Arkansas. II.—

TRIBE BLECHNEÆ.

12. *Woodwardia angustifolia*, Smith.—Occurs plentifully in the swamps of South Ark. Fine specimens are found about Little Rock and Hot Springs.

13. *Woodwardia Virginica*, Smith —Found in the swamps of S. Ark. Noticed in Nuttall's report of the plants of Ark.

TRIBE ASPLENIEÆ.

14. *Asplenium pinnatifidum*, Nutt.—Occurs in N. W. Ark. upon limestone cliffs. *Scarce.*

15. *Asplenium Trichomanes*, L.—Is found in great abundance, and grows large in shaded moist places upon sandstone and limestone cliffs, in the upland portion of Ark.

16. *Asplenium parvulum*, Mart. & Gal.—This interesting species, considered for a long time a variety of *A. ebeneum*, occurs plentifully upon ledges of sand and lime in the N. & W. parts of Ark. It seeks the N. & W. sides of the valleys where it attaches itself to the moss covering the face of the rocks, and seems held in place by it. Dwarfed specimens are frequently found on rocks with S. exposure.

17. *Asplenium ebeneum*, Aiton.—Plentiful in the mountains of Ark. upon rocky hillsides in shaded woods. I have never seen it growing on the escarpments with *A. parvulum.*

18. *Asplenium angustifolium*, Michx.—Occurs sparingly in N. W. Ark. upon rich banks in shaded woods, or upon low cliffs. It may be regarded as rare in Ark.

19. *Asplenium Ruta muraria*, L.—I have never seen in Ark., but have specimens from Mr. Lesquereux, (Botanist of the Ark. Survey by D. D. Owen) said to have been collected in N. E. Ark. I have never visited the region.

20. *Asplenium Bradleyi*, Eaton.—Found sparingly upon escarpments and roofs of shelving sandstone rocks upon White River, and the ledges of secondary valleys. Also upon isolated ledges inland. One of the rare species of Arkansas.

21. *Asplenium Filix-fœmina*, Bernh.—Is represented in Arkansas by two varieties:

1. var. *angustum*, growing in the sunny and drier places in swamps and along the banks of creeks in woods. Common.
2. var. *commune* is common in wet and shaded places in swamps, and along creeks in shaded woods.

Both varieties are confined to the S. half of the State, or low country.

22. *Camptosorus rhizophyllus*, Link.—Plentiful upon shaded lime and sandstone cliffs in N. W. Ark. Grows luxuriantly, showing well the pilose apex. The auricles at the base are often found rooted, and with secondary fronds. Fronds from 12 to 15 inches long are not uncommon. I have never seen such fine specimens anywhere.

TRIBE ASPIDIEÆ.

23. *Phegopteris hexagonoptera*, Fee.—Abundant upon dry hills and in low ground throughout N. and W. Ark.

24. *Aspidium Noveboracense*, Swartz—Occurs in the swamps about Hot Springs, and probably throughout S. Arkansas.

25. *Aspidium Thelypteris*, Swartz.—Plentiful in bogs about springs in N. W. Arkansas.

26. *Aspidium cristatum*, Swartz.—Occurs in S. E. Arkansas. We have specimens from near Pine Bluff found growing in swamps by Mr. G. E. Lytle.

27. *Aspidium spinulosum*, Swartz.—Said to grow in rich woods by the Botanist of the Ark. Survey. I have not found any specimens.

28. *Aspidium acrostichoides*, Swartz.—Plentiful in the elevated regions of the State. Found upon the base of shaded cliffs, and on rich alluvial banks in moist situations, also in the swamps of S. Ark.

29. *Aspidium marginale*, Swartz.—Quite common upon shaded moist cliffs in the mountains of Ark. Grows very large. Inland and along streams.

30. *Cystopteris fragilis*, Bernh.—Occurs in N. W. Ark. upon shaded moist cliffs and rich banks. Seems to prefer sandstone.

31. *Cystopteris bulbifera*, Bernh.—Quite plentiful on shaded rocks in the mountains. Specimens from N. W. Ark. are sometimes nearly two feet long. Found on both lime and sandstone.

32. *Onoclea sensibilis*, L.—Occurs in spring bogs and upon low wet cliffs of White River with a North exposure. The form growing on rocks differs from the low ground form in having the sterile frond ovate in outline, the pinnæ oblong, obtuse and entire, the stipe no longer than the blade.

TRIBE WOODSIEÆ.

33. *Woodsia obtusa*, Torrey.—Upon cliffs and in rocky woods. Prefers moist shaded places, though found in dry situations. Inland and along streams. Grows luxuriantly.

TRIBE DICKSONIEÆ.

(Not Represented.)

SUBORDER CERATOPTERIDEÆ.
" HYMENOPHYLLACEÆ.
" SCHIZÆACEÆ.

(Not Represented.)

SUBORDER OSMUNDACEÆ.

34. *Osmunda regalis*, L.—Common in the swamps of Arkansas.

Growing with No. 35. Found as far North as the line of the Ft. Smith and Little Rock R. R.

35. *Osmunda cinnamomea*, L.—Swamps of South Arkansas, also on cliffs of sandstone in the extreme N. W. part of the State upon White River.

ORDER OPHIOGLOSSACEÆ.

36. *Botrychium ternatum*, Swartz, var. *lunarioides*, Milde.—Said to occur in the rich woods of Ark. We have not found it.

37. *Botrychium ternatum*, Swartz, var. *obliquum*, Milde.—Occurs in the low rich woods of S. W. Ark. The Arkansas form has rather broad sterile fronds. We have specimens from S. W. Ark. collected by Miss Mary Jones, of Montgomery Co.

38. *Botrychium Virginicum*, Swartz.—Common in the rich shaded copses of the upland portion of Ark.

39. *Ophioglossum vulgatum*, L.—In N. W. Arkansas upon limestone ledges 200 ft. above the valleys, also wet woods in rich soil.

Some Arkansas Trees.—Mr. Warder will find in the August and September numbers of the GAZETTE for 1880 an account of some specimens of *Castanea pumila* occuring in Hempstead County, which exceed in size those he found near Hot Springs. Specimens two feet in diameter are found in N. W. Ark., near Fayetteville. I am informed that a few specimens of *C. vesca* occur in E. Ark., but whether they are introduced or spontaneous I am unable to decide having never seen the specimens growing. I should like to know more about the occurrence of *Pinus australis* in Ark. I did not find it while in S. Ark. last summer, but *P. mitis* extends as far South as the Texan border. Should also like to know whether *Magnolia grandiflora* grows spontaneously about Malvern.

M. macrophylla and *tripetala* are common in Garland and adjoining counties, but I did not find *M. grandiflora* spontaneous. *Ilex opaca* grows much farther N. in Ark. than Malvern. It is common about Hot Springs.

I have passed from the N. to the S. part of Ark. in order to observe the change of tree covering, and find that it is governed by altitude, moisture, soil and other physical conditions, and that one can pass from one geological horizon to another and not be aware of it by a change in vegetation.

It is true that *Q. aquatica* and *Phellos* are not found in the N. part of the State, but they extend on the sub-carboniferous as far as the mountains about Ft. Smith, the distribution being termed by the physical rather than geological conditions. The same may be said of *Ilex opaca* and other species.

One could go from Malvern through Magnet Cove to Hot Springs and from the vegetation never dream he was passing across such a remarkable metamorphic region.

Q. Phellos and *aquatica* might be added to the Oaks of Garland Co., as they grow about Hot Springs.

This is not written in the spirit of criticism, but that I may know more about some species spoken of by Mr. Warder in March GAZETTE, p. 188.—F. L. HARVEY, *Ark. Ind. Univ., Fayetteville, Ark.*